



UNITED STATES PATENT AND TRADEMARK OFFICE

HA

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/731,005

12/10/2003

Jae-Cheol Lee

1349.1302

6349

21171

7590

08/17/2006

STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

VO, ANH T N

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 08/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/731,005

Applicant(s)

LEE ET AL.

Examiner

Anh T.N. Vo

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-14, 26 and 29-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5-10, 12-14, 26 and 29-37 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FINAL REJECTION

The objection of the claims is withdrawn in view of the amendments to the claims and claim 28 was canceled.

The rejection over Altendorf is withdrawn in view of the arguments presented in this amendment

CLAIM REJECTIONS

Claim Rejections - 35 USC § 112

Claims 1-10, 12-14, 30-32 and 36-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction or clarification is required.

In claim 1, it is not understood how the second welding part can have continuous contact “in time” and “space” with the fourth welding part.

In claim 30, it is unclear how the recitation “plurality of grooves” is read on the preferred embodiment. Insofar as understood, no such grooves are seen on the drawings.

The remaining claims are dependent from the above claims and therefore considered indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2861

Claims 1, 5-10, 12-14, 26 and 29-33 and 35-37 are rejected under 35 USC 103 (a) as being unpatentable over applicants' admitted prior art (as shown in Figures 1-4) in view of Meadows (US 5,181,936).

Applicants' admitted prior art discloses in Figures 1-4 an ink cartridge comprising:

- a cartridge body (102) partitioned into foam chambers (106) and ink chambers (108), and having a first welding part (122) and a second welding part (124);
- a lid (104) having a third welding part (126), engageable and weldable with the first welding part (122) of the cartridge body (102), and a fourth welding part (128) on the bottom thereof in which the second welding part (124) is insertable;
- at least one ink head (117) provided on the bottom of the cartridge body (102) to eject ink;
- at least one ink filter (115) provided on an upper side of each ink head to prevent foreign materials or bubbles from flowing in;
- wherein the cartridge body (102) holds one or more color inks, and further includes one or more partitions (110) partitioning different color inks;
- wherein the upper end portions of the second welding part (124) are a convex shape;
- wherein a plurality of ink injection holes (119, 120), for injecting ink into the ink chambers (106, 108), are each sealed by a ball (not shown); and
- wherein the upper sides of the groove are symmetrical triangle in cross-section and an angle between extension lines from two symmetric faces of the symmetric triangle ranges from 30 to 150 degrees, see Figure 1.

However, the admitted prior art does not suggest that "the second welding part has a thickness less than a width of each of the grooves in the fourth welding part, so that a predetermined space occurs on both sides of each second welding part when the welding part is inserted in the fourth welding parts, to define a first area and a second area where the second welding and has continuous contact in time and space with the fourth welding part and recited in claim 1, a predetermined space occurs between the first and second welding parts in a vertical

direction, and an amount of resin flows in the predetermined space welding the first and second welding parts together” as recited in claim 26. For example, the second welding part (124) of the admitted prior art is triangular shape.

Meadows suggests in Figures 1-4 a cover (16) being welded to a container (2) of a battery in which a second welding part (38) is a rectangular shape and has the width less than a width of a fourth welding part (groove 18) for being capable of withstanding high internal pressure with low cost, see lines 60-68, column 1.

It would have been obvious to a person having skill in the art at the time the invention was made to make the second welding part of the admitted prior art in a rectangular shape which has a thickness less than a width of the grooves in the fourth welding part as claimed for the purpose of being capable of withstanding high internal pressure with low cost. Noted that the modified second welding part of the admitted prior art in the rectangular shape as suggested by Meadow would provide two contact sections as recited in claim 26.

Although the admitted prior art and Meadows does not disclose that the fourth part has a V shape and the upper end portions of the second welding part has a concave shape as recited in claims 7 and 37, the combination of rectangular and triangular shape as recited in claim 32, the predetermined spaces are substantially equal to or less than 0.4mm each as recited in claim 12 or the second welding part has a convex shape and the lower side has a rectangular shape as recited in claim 36. However, a skilled artisan realizes the shape of the second and fourth welding parts and the gap or space between the welding parts determine the bond between the lid and the container. Weaker bond would not tolerate the high internal pressure of the ink cartridge. Thus, selecting an optimum shape of the second and fourth welding parts and the optimum gaps or the spaces as claimed is considered to be a matter of a mechanical design expedient for an engineer. *In re Daily*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). See MPEP 2144.04. Lacking of showing any criticality, it would have been obvious to a person having skill in the art at the time the invention was made to select the shape of the second and fourth welding parts of the modified ink cartridge of the admitted prior art as claimed for the purpose of providing a strong

Art Unit: 2861

bond between the lid and the container to accommodate with a predetermined internal pressure of the ink cartridge.

Response to Applicant's Arguments

The applicant argues at page 7 of the amendment that the admitted prior art fails to disclose “the second welding part has a thickness less than a width of each groove in the fourth welding part. The argument is not persuasive because this limitation is suggested in Figures 1-4 of Meadows in which the thickness of the second welding part (38) is less than the width of the groove (18).

The applicant argues that although Meadows discusses providing a heat seal between a thermoplastic container and cover but this seal does not relate a lid or a cartridge body of an ink cartridge, and the second welding part of Meadows does not have continuous contact in time and space with the fourth welding part. The argument is not persuasive. Although Meadows does not disclose a printing cartridge; however, Meadows suggests to weld a cover to a container body for withstanding high internal pressure with low cost. Thus, applying the suggestion of Meadows in the printing cartridge of the admitted prior art for the purpose of withstanding high internal pressure with low cost would have been obvious to a person having skill in the art. Also, selecting the shape of the second and fourth welding part for providing a strong bond between the lid and the cartridge body is considered to be a matter of a mechanical design expedient for an engineer and would have been obvious at the time of the invention.

Allowable Subject Matter

Claims 2-4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. These claims are allowed because the prior art of record fails to suggest “wherein the first welding pad has a first section horizontally protruded in cross-section and a second section vertically protruded to the first section, and the third welding part has a third section vertically protruded, a fourth section horizontally protruded, and a fifth


section in a diagonal cross-sectional shape connecting the third section and the fourth section" as combined in claim 2.

CONCLUSION

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262. The examiner can normally be reached on Tuesday to Friday from 9:00 A.M. to 7:00 P.M.. The fax number of this Group 2861 is (571) 273-8300.


ANH T.N. VO
PRIMARY EXAMINER
August 12, 2006